



# Pixie Switcher™

Switching / Load Controller for ZigBee Wireless

## Summary

Pixie Switcher is free switching firmware for Pixie and Pixie Lite. Using the Home Control – Lighting (HC-L) ZigBee profile, it provides up to 8 inputs (control switches) or outputs (load controllers). These may be bound to any HC-L devices in the ZigBee network. For example, a single Pixie Switcher could be configured as 8 inputs, 8 outputs, or 4 of each. Pixie Switcher requires only a few residual components to provide a complete wireless switching system.

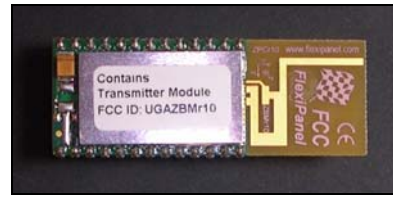
Pixie Switchers have four operating modes: (i) *fast end device*, (ii) *sleepy end device* under battery power, (iii) *router*, able to route messages between non-adjacent ZigBee devices, and (iv) *network coordinator*, which manages the network. A lower cost 'Lite' version is also available, that operates as a 6-I/O end device only.

## Applications

- Lighting control
- Appliance remote control
- Security and burglar alarms
- Access control systems
- Electrically isolated switching
- Device fault/missing/stolen alert
- Battery needs charging alert

## Hardware Features

- Free space range approx 120m
- FCC / CE / IC compliant
- Signature G antenna, low "hand effect" design
- Consumes 25mA when active, 2µA in sleep mode
- 2.4GHz IEEE 802.15.4 compliant, 16-channel DSSS, CSMA-CA, PHY / MAC layers
- Surface mount and DIL through-hole versions
- Wide temperature range -40°C to +85°C
- 2.1V - 3.6V supply
- Optional LDO regulator for 3-20V supply



## Firmware Features

- 8 I/O endpoints each configurable as one of:
  - On / off / toggle / timer / programmable input
  - On / off / pulse output
  - Power control
  - Time delay setpoint
  - Failsafe alarm reporting when contact is lost, out of range, low battery or device fault
- Control I/O for joining & binding, status indication
- Battery monitoring
- 4 operating modes:
  - Coordinator router
  - Router
  - Fast end device
  - Sleepy end device
- Signal strength indication
- Serial port for configuration and diagnostics
- ZigBee 1.0 HC-L compatible
- Up to 254 end devices per network
- Up to 255 binding table entries
- Up to 25/24 neighbors per router / coordinator
- Pre-allocated unique MAC address
- Lite version available:
  - End device only
  - 6 I/O endpoints

Manufactured to ISO9001:2000



## Ordering Information

Table 1. Ordering information	
Part No	Description
PIXIE-SO-PXSC	Switcher coordinator surface mount
PIXIE-DIL-PXSC	Switcher coordinator dual-in-line
PIXIE-SO-PXSR	Switcher router surface mount
PIXIE-DIL-PXSR	Switcher router dual-in-line
PIXLITE-SO-PLFE	Switcher lite fast end device surface mount
PIXLITE-DIL-PLFE	Switcher lite fast end device dual-in-line
PIXLITE-SO-PLSE	Switcher lite sleepy end device surface mount
PIXLITE-DIL-PLSE	Switcher lite sleepy end device dual-in-line
PIXIE-CONFIG	USB configuration tool
UZBEE	ZigBee packet sniffer
EVAL-PIXIE	2-device evaluation kit
<i>Other firmware builds available on request</i>	

